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SEPTEMBER 1977

Macdonald Journal
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In This Issue

Cover: Micheline Lamothe of the DHAS lab prepares another box of sample bottles to meet the increasing demand of Quebec dairy farmers for Canada's most modern and progressive milk recording system. See photo-story page 7.

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Journal Jottings

Back in early February I heard that Dr. Calvin Chong, a research scientist with the Ornamentals Research Service, Agriculture Canada, in Ottawa, was coming to Macdonald to give a paper at a Department of Plant Science seminar. As Dr. Chong had contributed informative articles to the Journal when at Macdonald a few years back, I asked him if we might see a copy of the paper he was presenting. It arrived a month or so later and I immediately scheduled it for the September issue. What neither he nor I knew at that time was that the publishing of his article in this month's issue would coincide with his new career on this Campus as Assistant Professor in the Department of Plant Science.

In a sense, Calvin Chong is coming back home, for he received his B.Sc. here in 1968, his M.Sc. in 1970, and his Ph.D. in 1972. Dr. Chong was a graduate assistant in the Department of Horticulture (which is now part of the Department of Plant Science) from 1968 to 1972 and in 1973 and 1974 he became a research associate and shared teaching responsibilities for the graduate course in Crop Physiology and the Diploma course in Pomology. His research was in the areas of pomology and vegetable crops with background in physiology and plant cell and tissue culture; physiology, carbohydrate biochemistry, and post-harvest physiology; field production, management, mineral nutrition, and factors affecting quality, and nutrient contents of vegetables including vitamin C, goiterogens, and other toxins in vegetable crops.

He will now be teaching courses in Nursery-Landscape Materials and Floriculture and plans to continue his research in the area of ornamentals, which takes us back to his stint in Ottawa and the subject of his article.

Welcome back to Mac, Professor Chong. From a brief discussion we've already had, I know we'll see his byline from time to time in the Journal.

Hazel M. Clarke

Institutions evolve from a set of values and goals that reflect the needs of the community it serves. The focal point of an institution should be to further the development and excellence of its objectives. For example, schools serve the educational needs of the community; cooperatives serve the common interest of its members; farm organizations defend the interest of the agricultural community.

Because of an historical heritage most of our institutions also reflect a strong cultural polarity. Often it is the carrier and guardian of traditions and folklore representative of that culture. Therefore we look to our institutions to provide us with the cultural stability, permanence, and con-

tinuity of the objectives established by their founders.

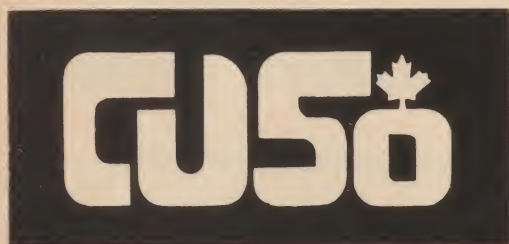
The value of the services an institution extends to its community can be measured, first of all, by its direct contributions to society. Another way it can be measured is by its degree of interaction with a community or by its ability to transcend its structural organization, thus participating directly with its population.

In our bicultural society there is always a danger of our institutions becoming cultural ghettos, which can inhibit the development and adaptation to an ever-changing environment and cultural mix. In my view, an institution's process of interaction with other cultures will not endanger its

cultural heritage. Providing that the institution has a healthy concentration of activities and participation of its population in its endeavours, its cultural identity will not be endangered.

During this critical period your support for your institution is crucial, not so much to create a cultural polarization but to reaffirm its identity within our society.

Martin van Lierop
Editor



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An Overview of Ornamental Nursery Crop Research

by Dr. Calvin Chong
Ornamentals Section,
Ottawa Research Station,
Agriculture Canada.

(From a seminar presented
to the Department
of Plant Science,
Macdonald College,
February 14, 1977.)

Ornamental horticulture is more traditionally and narrowly defined as the art and science of growing ornamental plants, i.e., plants grown for beauty or aesthetic quality of form, foliage, flowers, or fruit rather than for food, fibre or other uses. Since this includes all aspects of the production and marketing of floricultural, nursery, and turf crops and the utilization of these crops by landscape architects or contractors as well as by consumers, ornamental horticulture with its allied industries is of great economic importance to our society. By virtue of its close association with other sectors of agriculture, it is considered a vital agricultural entity.

But beyond the basic concept of aesthetics or even its economic significance, ornamental horticulture plays important physical and ecological roles that only recently are being recognized because of current public interest and concern for the environment. The care of plants is now recognized to be of therapeutic value (often referred to as horticultural therapy) to certain kinds of patients, such as the depressed or mentally retarded, and even to society as a whole, since this type of occupation helps to make more productive and constructive use of our increasing leisure time. The reduction of noise pollution by plants also helps to alleviate tension and related psychological disorders. In view

of this recent emphasis, ornamental horticulture is increasingly being referred to as "Environmental Horticulture" or "Urban Agriculture".

Production trends

The production and marketing of ornamental crops have become big business in Canada. Today all segments of the ornamental horticultural industry are experiencing phenomenal growth, and demand has outstripped supply and created scarcity of certain landscape material. Recent statistics indicated that the farm value of greenhouse floricultural crops totalled \$88 millions in 1974 and \$108 million in 1975. Total sales of ornamental and fruit nursery stock were estimated at \$34 millions in 1974 and \$41 millions in 1975 (Table 1). Significant increases in acreage of nursery stock in recent years have made continued expansion of the industry a long-term prospect. Very strong demands

for nursery stock were shown for the years between 1972 and 1975 (Table 1). If value of landscape construction, maintenance contracts, and sales of related materials are included, the nursery industry sales total is valued at over \$100 millions (Table 2). In Canada, approximately 20 per cent of all nursery stocks are sold to landscape contractors, 50 per cent to retail outlets and the remainder to other nurseries. These figures emphasize the interdependence of growth and expansion of the allied industries.

In 1974 Ontario accounted for 65 per cent of all nursery stocks sold in Canada followed by British Columbia 14 per cent, Quebec 11 per cent, Prairie Provinces 9 per cent and Atlantic Provinces 1 per cent; corresponding 1975 figures for Ontario decreased to 59 per cent and increased for British Columbia and Quebec to 19 and 12 per cent, respectively. While exports have remained small, imports from the United

Table 1. Sales of ornamental and fruit nursery stock, 1970-75

	1970	1971	1972	1973	1974	1975
	\$ million					
Atlantic Provinces.....	0.17	0.21	0.40	0.51	0.32	0.32
Quebec.....	2.15	2.15	3.14	2.44	3.73	5.11
Ontario.....	9.05	10.28	15.53	19.06	22.31	24.34
Prairie Provinces.....	1.31	1.41	1.96	1.98	2.89	3.62
British Columbia.....	3.70	3.33	3.88	4.19	4.88	7.99
Canada Total.....	16.43	17.33	24.90	28.19	34.12	41.37
Increase over previous year.....	-10%	6%	44%	13%	21%	21%

Source: Statistics Canada Survey of Canadian Nursery Trades Industry.

Table 2. Distribution of nursery industry sales, 1974-75

Category	1974	1975	% of total
	\$ million		
Fruit and ornamental nursery stock.....	34.12	41.37	40
Landscape construction and maintenance.....	30.78	36.40	35
Related materials*.....	10.60	13.43	13
Unspecified.....	11.99	12.41	12
Total.....	87.49	130.43	100

*Includes fertilizer, seeds, pots, decorations, etc.; excludes farm machinery.
Source: Statistics Canada Survey of Canadian Nursery Trades Industry.

States have been increasing rapidly (Table 3). The demand for large shade trees has prompted several nurseries to develop this speciality in recent years. Although the number of growers appears to be decreasing, continued growth and expansion of existing operations is expected as more plant materials will be needed to meet the landscaping requirements of future housing starts.

Research Problems

Research is a prerequisite to future development and thus to the creation and application of new, innovative ideas or methods which benefit the industry.

To provide more valuable and meaningful service to the industry, a Work Planning Meeting on Ornamentals and Greenhouse Vegetables Research was held in Ottawa in 1974. Input was received from industry, research and extension personnel from federal and provincial governments and universities across Canada, needs assessed and research priorities established for the ornamentals' industry. This provided a basis for directing mission-oriented research into solving the most pressing problems of the ornamentals' industry. In fact, the wide diversity of research projects in ornamentals currently in progress at the Ornamental Section of Agriculture Canada in Ottawa were selected on the basis of the national priorities established at this Work Planning Meeting. The direction and nature of my current research program, described below, have been largely determined by the recommendations of the Nursery Section of this meeting.

On a continuing basis, suggestions for research are provided by the nursery industry through its national organization, The Canadian Nursery Trades Association, which represents the seven regional nursery associations across Canada. Ontario, being the largest producer of ornamental and nursery crops, is also re-

presented by scientists from federal and provincial governments and universities, along with industry personnel, at annual meetings of the Ontario Ornamentals Research Committee; within this Committee there are subcommittees in floriculture, nursery, and turf.

The nursery industry, as individual members and collectively through the above associations or committees, has now recognized the need to support research through direct monetary grants or otherwise to research personnel requiring such support in the federal or provincial organizations or universities. For instance, my

"Our Industry is committed to the preservation of the environment that will fill man's physical and aesthetic needs. Planted materials... trees, shrubs, grass and flowers are destined to play an enormously important role in the ecological balance."

The Canadian Nursery Trades Association.

current nursery research program has been greatly enhanced by the contribution of a double layer plastic house from a greenhouse manufacturer and periodic supplies of plant material and other supplies from various nurseries and related organizations.

A great deal of research can be undertaken by the industry itself, particularly those research problems that are of short-term

nature requiring very practical solutions that can perhaps best be investigated at actual nursery sites. This would leave more room for researchers in government institutions and universities to concentrate on long-term, fundamental problems. Although the industry has expanded and sought new markets, little or no attempt has been made to assess the potential market or provide new market technologies. The industry feels that marketing research is very essential to its future growth. It is worth noting that only recently has the industry become aware of the importance of statistics to future planning and, even today, figures as to the size or value of the ornamental industry in Canada are incomplete or underestimated (i.e., Tables 1-3) due to poor response to Statistics Canada inquiries.

Nursery Research at Ottawa

Based on the national priorities recommended by the 1974 Ornamental Work Planning Meeting, the nursery research program in Ottawa is experimenting in the areas of container-growing of plants and their winter protection problems; propagation, with some emphasis on difficult-to-propagate species; and in the use of plastic bags to aid in storing nursery stocks.

Overwintering Container-grown Plants

The most significant advance that has occurred in the nursery industry is the switch to growing plants in containers. Although this production method has been practiced in California for over 20 years, in recent years it has expanded to other parts of the

Table 3. Import and Export of ornamental crops, 1974-75

Crop	Import		Export	
	1974	1975	1974	1975
\$ million				
Floriculture.....	13.91	16.09	3.32	3.48
Nursery.....	14.54	22.88	3.02	2.66
Total.....	28.45	38.97	6.34	6.14

Source: Adapted from Statistics Canada figures compiled by the Canadian Horticultural Council

U.S.A., Canada, Great Britain, and other countries. Growers, landscape personnel, and consumers alike have quickly accepted container-grown plants because, among other factors, they can be planted any time of year between early spring and late fall. Container growing also allows better land utilization since more plants can be produced per acre, a faster capital turnover can be realized, and this type of production is more adaptable to mechanization. A major drawback is that initial expenses and total amount of risk is greater for a container than for a comparable field operation. Production of container plants in Canada is expected to increase and, ultimately, it is expected that much of the nursery stock will be grown this way.

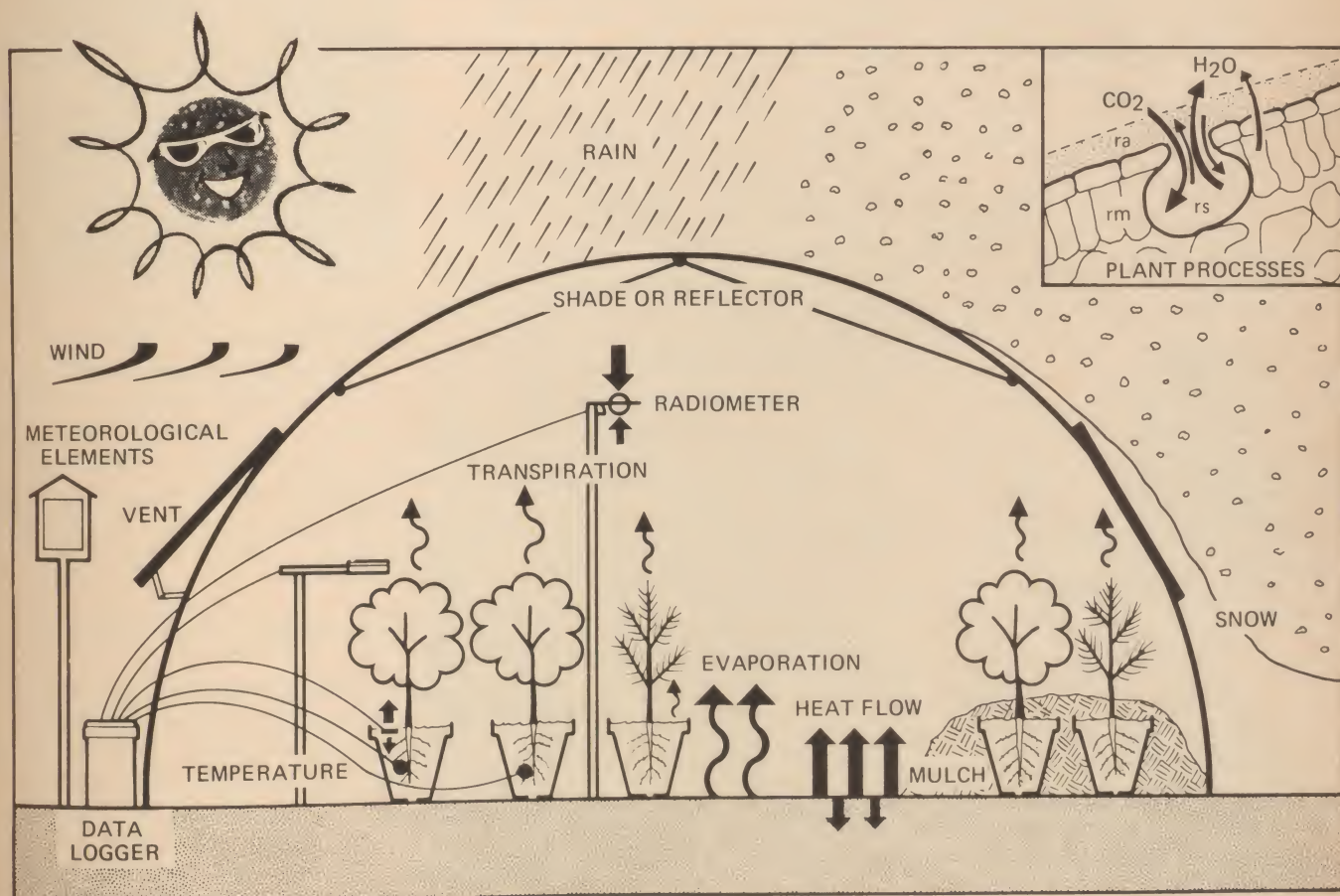
Since container growing is a relatively new art in Canada, there is still much to learn and many problems to overcome. The growing of plants in a limited

soil volume is in many ways different from traditional field production and the required cultural practices are often not well known. The contained root system requires good management to maintain a favourable balance in moisture, air, and nutrients. Because roots are the most cold sensitive part of the plant, they must be protected in winter from exposure to extreme conditions.

Although snow cover provides good insulation for over-wintering container-grown plants, in most areas it cannot be relied on to accumulate or to persist throughout the cold period. Roots can be protected by burying containers below ground level or using mulches, but such practices are bothersome, costly, and require significant labour. Moreover, these methods do not protect above-ground plant parts from low temperature damage, "wind burn", or destruction by animal pests.

To overcome these problems, many commercial nurseries are turning to plastic houses. Nonetheless, plants are quite frequently injured under these environments and such losses continue to pose an economic threat to nurserymen. The use of supplemental heat to maintain minimum temperatures for plant survival in plastic houses is becoming impractical because of scarcity and high cost of fuel. Finding practical solutions to this problem is perhaps the key to future large-scale expansion of the container-grown plant industry in Canada.

With the above consideration in mind, and in view of present energy crisis, a research program was initiated to evaluate and compare the use of unheated plastic houses and other "passive" (unheated) means for the winter protection of container-grown ornamental nursery plants. In this type of investigation we are dealing essentially with prob-



Basic meteorological elements and microenvironmental factors are constantly monitored during the winter storage period.

Polyhouse structures of different designs are being evaluated and compared with other methods used for protecting container-grown nursery plants during the winter.

blems of winter survival of plants under circumstances that are quite different from those under field conditions. Since the influence of many factors or their interactions are not fully understood in unheated plastic enclosures, there are many questions to be answered.

Currently two polyhouse structures of different designs, a single-layer and a double layer (Filclair Canada Ltd.), are being evaluated and compared with other methods used for overwintering of plants, i.e., the use of thermoblanket (Microfoam) which eliminates the need for rigid, upright structures. Using the thermoblanket method for overwintering, nursery container-grown plants are laid on their sides, covered with a layer of Microfoam packaging material and an external layer of polyethylene, sealing the edges to the ground with soil. With the cooperation of Dr. R. L. Desjardins of the Agrometeorology Research and Service Section at Ottawa, we are monitoring extensively the basic external meteorological elements and the microclimate variables within the various protective environments. This will result in a data bank on these environments. Results of the 1975-76 winter trials have been most encouraging. In these trials, special emphasis was given to air and container soil temperatures in the various environments.

During the 1975-76 winter, the double-layer polyhouse warmed up faster in the daytime, cooled to lower temperatures at night, and showed the largest temperature fluctuations because snow was not retained on its roof for any extended period. Air temperatures were less variable in the single-layer polyhouse due to the insulating effect of a persistent snow cover on the roof throughout most of the winter and also to shading provided by white latex paint applied to the roof of this structure the previous November. For experimental purposes, the double-layer polyhouse was shaded only towards the end of March when daytime temperature



increased close to 30°C. Air temperatures under the thermoblanket were least variable, particularly during periods with snow cover between January and March. For instance, in January when outside air temperature plunged to -34°C, minimum temperatures were -18.6°C in the double-layer polyhouse, -12.8°C in the single-layer polyhouse, and -10.1°C under the thermoblanket. Container soil temperatures during winter storage were warmer in the double-layer polyhouse than in the single-layer polyhouse, with generally intermediate temperatures recorded under the thermoblanket. Selected plants including certain tender types among a list of 65 species or cultivars, overwintered well in all three protected environments. Except for certain very hardy species, control plants kept unprotected outside were damaged to various extents.

Although this trial demonstrated the effectiveness of all three overwintering environments, including the thermoblanket type not previously tested, further investigations are required. Because of the elimination of upright structures and the relative ease and rapidity of applying Microfoam, the use of this material for winter protection could provide innovative alternatives to the more popularly used plastic enclosures. In the past year, we have received many requests for additional information on the thermoblanket method,

both from Canada and also the U.S.A.

The 1976-77 overwintering program, now currently in progress, has been expanded to include extensive testing and data gathering of 19 overwintering regimes, either of the polyhouse type, the thermoblanket type, or a combination of both. The use of "AirCap", an air bubble-type insulating material recently used to effectively conserve fuel consumption in heated greenhouses, is also under investigation.

Physiological studies are also being conducted to gain more basic knowledge of the many variables and their interactions within the container-plant-environment system. For instance, we are studying sugar-starch relationships and changes in various mineral constituents in plants during storage, and are also making a closer examination of the water relations. We have also initiated studies on the influence of growth regulators on hardening since this aspect is still open to question.

Nursery Plant Propagation

A good propagation program is fundamental to a successful nursery operation. Although plant propagation has trod the beaten path for a long time, there is considerable room for improvement from new research knowledge. For instance, research can

(Continued on Page 15)

12 Steps to Success with DHAS



1. Some of the 175,000 cows in Quebec dairy herds that are profiting from the Dairy Herd Analysis Service, the milk recording program jointly operated by Macdonald College and the Quebec Ministry of Agriculture.



2. Located at Macdonald College, Norm Campbell manages the 140 staff required to obtain and process data and send monthly management information to the dairy farms on the program.

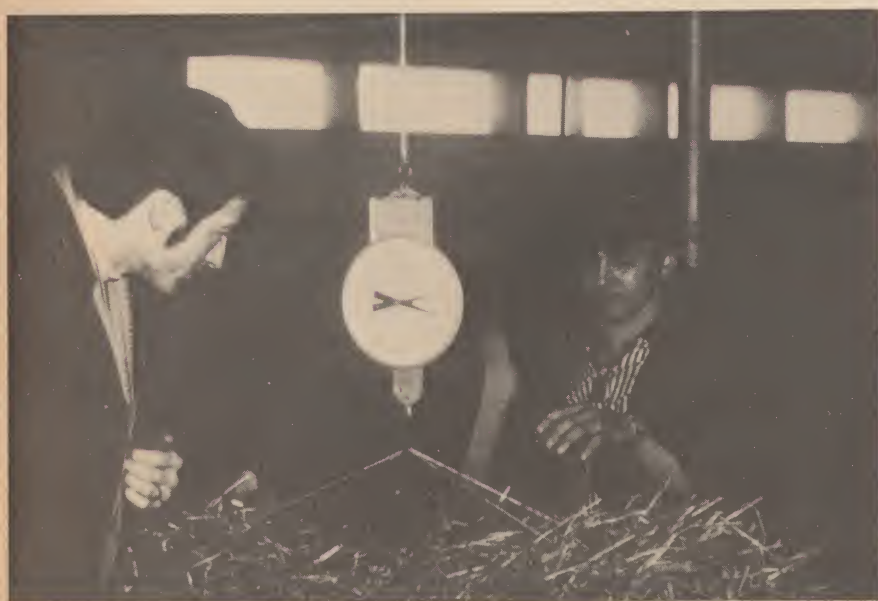


3. One of the nearly 5,000 dairy farms visited each month by the 90 DHAS field supervisors located in all agricultural areas of the province.

4. On test day milk from each cow is weighed and a sample for testing is sent to Macdonald.



5. George Henri Levesque, DHAS supervisor, carefully records information on quantity, quality and cost of all feeds.

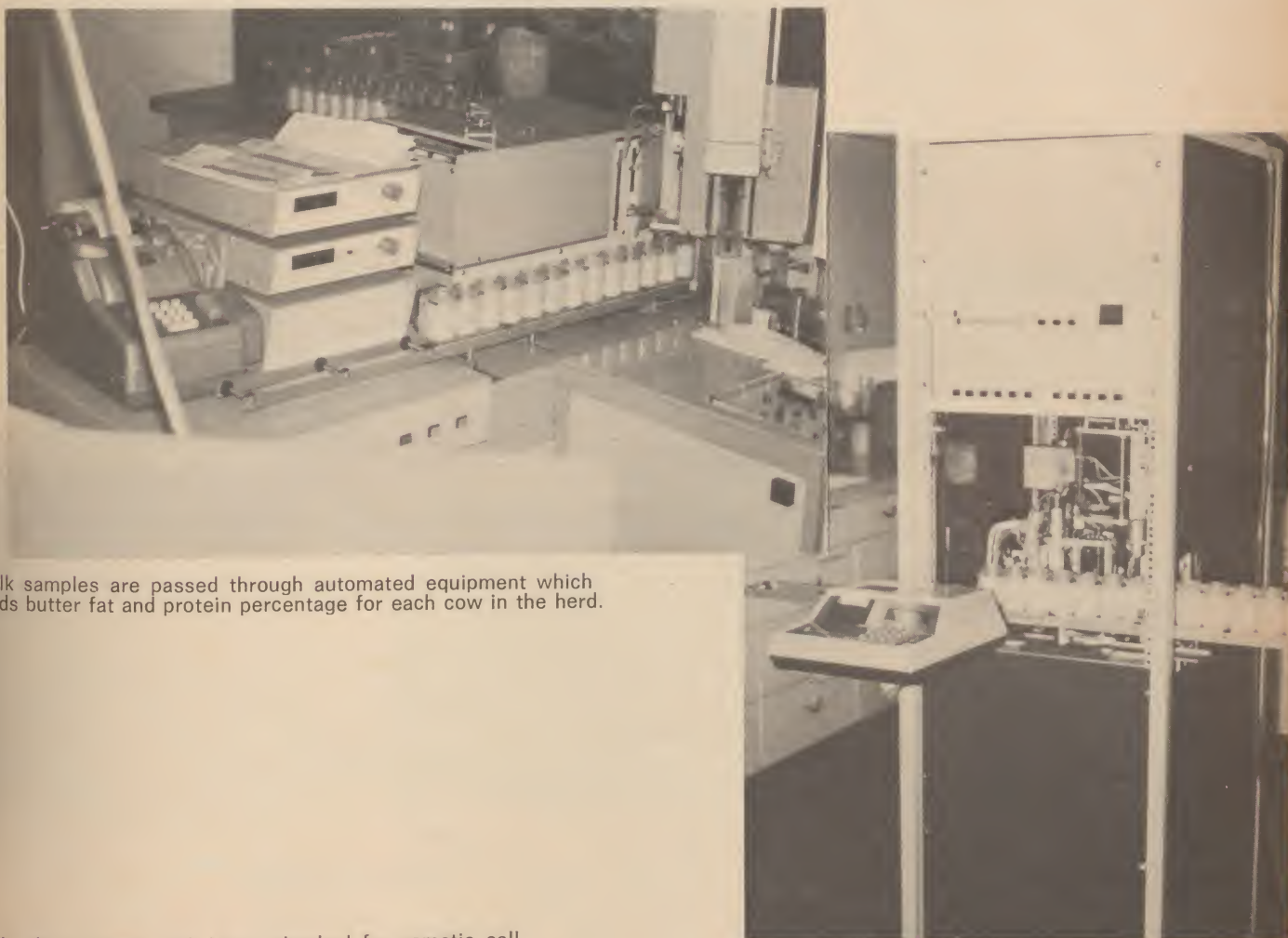


6. Levesque (right) working with the dairy farmer records other necessary information and discusses changes which could be made to improve income in the herd.





7. Milk samples and the input report are then sent by the supervisor via courier service to the DHAS lab at Macdonald College where, in this photo, we see lab employees Martyn Would and Irene Maurier preparing milk samples for analysis.



8. Milk samples are passed through automated equipment which records butter fat and protein percentage for each cow in the herd.

9. This photo shows milk being checked for somatic cell counts which will assist dairy farmers and veterinarians in early detection and treatment of mastitis.



processor operator Berthe Hansen entering the data from the farm on to a diskette which then feeds the information into the computer.

11. DHAS editor Muriel O'Reilly Bingham checks reports for any missing or inaccurate information before the dairy farmer's monthly report is printed by the computer.



12. Monthly reports are processed in the computer under the direction of Gloria Sola, data processing supervisor, and immediately mailed to the dairy farmer so that he can make necessary and profitable adjustments in his herd management program. At the left we see Dr. John Moxley, Director of DHAS, and Dr. Brian Kennedy, Research Director, with information from these herds which will be used by animal science researchers at Macdonald College to find ways of helping the dairy industry. An example of this is the forwarding of lactation data on many of these herds to the Quebec A.I. Centre at St. Hyacinthe to assist them in proving better sires which will lead to more improvements in the Quebec dairy industry.

FOOD ADDITIVES

by Professor H.J.T. Beveridge
School of Food Science

(Professor Tom Beveridge of the School of Food Science answers a few of the many questions that could be asked about food additives and gives his own viewpoint on some aspects of this sometimes controversial subject.)

We in Canada have some 400 food additives that are acceptable to the Food and Drug Directorate. Would you discuss some of these, but first could you explain the difference between food additives and food preservatives?

Professor Beveridge: If you consider the area of food additives as a big circle, then food preservatives become a smaller circle within the big one. In other words, food preservatives are a relatively small number of compounds which fall under that big umbrella of food additives. Basically, that is the difference between the two terms. Obviously the word preservative implies that the chemicals are added in order to preserve the food for a longer period of time and make it more shelf stable. There are a number of ways that food can deteriorate. The obvious one is bacteria. If bacteria grow in food, it usually becomes spoiled and inconsumable.

There are a number of chemicals that are allowed to be placed in food for the purpose of controlling microorganisms. These include benzoic acid, sorbic acid, propionic acid, sulphurous acid and some salts of these acids, usually the sodium, calcium or potassium salts (sodium benzoate, potassium sorbate, calcium propionate, potassium bisulfite, etc.). In addition there are the methyl and propyl parabens. Propionates are mould inhibitors commonly found in bread and baked goods

and the sorbates are mould inhibitors commonly employed in processed cheeses, cottage cheese, and other products either in the food or on the package material. Benzoates and parabens commonly appear in liquid acid foods such as jams, mincemeat, relishes and tomato pastes. Also, we can preserve foods against microorganisms by adding food acids. In other words, lowering the pH to the point where the bacteria either find it difficult to grow or cannot grow. Acids that are allowed for this purpose include acetic (vinegar), citric, fumaric, tartaric, lactic, malic, and phosphoric. These acids are commonly found naturally in fruit or fermented foods such as yogurt or sauerkraut and contribute flavour or taste to the food in addition to helping control bacteria. Furthermore, the pH or acidity of foods is important, particularly such foods as jams, jellies, pickles and some baked goods and these food acids may be used to adjust the pH of the food. You will notice that these compounds adjust the pH of the food to an optimum level and help inhibit microbial growth by their acidic nature while at the same time contributing some flavour to the food. Food additives can have more than one role in life. Another common place to run into these food acids is in soft drinks: the colas are usually based on phosphoric acid, many of the others on citric acid.

Another type of deterioration, oxidation, occurs in many foods, particularly those that have a lipid (fat or fat-like) component. These foods will react with the oxygen in the air resulting in off-flavours, off-odours, and eventually inedible products. Chemicals termed antioxidants are added to many fatty foods to protect them against oxidative changes. Some common antioxidants are ascorbic acid (Vitamin C), butylated

hydroxyanisole (BHA), butylated hydroxytoluene (BHT), nordihydroguaiaretic acid, propyl gallate and combinations of these compounds with each other and with other substances such as lecithin citrate. Read the labels on most oil products, cooking oils for example, and you will find that there is one or more of these added to preserve freshness. Many prepared breakfast cereals have some of these compounds in the packaging material. They are slightly volatile (particularly BHA and BHT) and so are able to transfer from the package to the food in sufficient amounts to preserve freshness.

Anticaking agents such as calcium and magnesium silicates, magnesium carbonate, calcium phosphate and other compounds are the type of additives that keep powders free-flowing. They find use particularly in salt, icing sugar, baking powders and other dry mixes to avoid lumping. Icing sugar is an obvious example of a food ingredient requiring this type of additive — should excess moisture get in you wind up with a little block of cement. I should mention that starch can be and often is used in these applications but starch is not considered a food additive in Canada.

One group of additives that have been attacked by some people are the bleaching agents, the maturing agents that are used in bread. There is a rather large number of these with rather impossible chemical names — potassium bromate, potassium iodate, benzoyl peroxide, acetone peroxide, azodicarbonamide, potassium persulfate, etc. These are all oxidizing agents and they are used to tighten the dough. They make the dough stiffer which makes it easier to handle and more machineable. These additives also tend to give an

increased loaf volume, and in many cases, they bleach the yellowish colour of flour and tend to give a whiter product. People object to these additives because they claim that the bread is over-refined and that the "goodness" has been taken out. There is some justification here in that the refining process does remove much of the mineral content and most of the vitamin content of the wheat. However, this can be partially overcome by the process called "fortification" (or the newest term "nutrition") in which niacin, riboflavin, and thiamine are returned to the flour in synthetic form.

The food additive sodium or potassium nitrite has been in the news recently and has been the subject of some controversy. Nitrite is used in cured meats usually, but not necessarily, of a pork origin for three reasons: it reacts with the red pigment in meat to give a pink colour — the cured meat colour; it gives the meat a particular flavour — the cured meat flavour; in canned or shelf stable cured meat it inhibits the outgrowth of *Clostridium botulinum* organisms. Some time ago it was shown that nitrite was able to react with amine compounds in meat producing the compounds known as N-nitrosamines which are carcinogenic and may cause cancer. We know that nitrosamines are carcinogenic at levels of about 10 parts per million but they occur in cured meats at levels of about 10 parts per billion or less.

Furthermore they occur usually in cured meats cooked at high temperature — fried bacon is a commonly cited example. As far as I know no one has demonstrated that nitrosamines at these low levels in foods can cause cancer in any animal. The problem boils down to this: do you withdraw the use of nitrite on this basis or not?

There are some other things to consider as well. First, there is a large economic interest in processing cured meat — a number of people have their jobs based in the cured meat industry. Secondly meats cured without the use of nitrite are essentially salt preserved meats and do not have the colour or flavour of cured meats as we recognize them today, and thirdly, the increased heat processing of canned or shelf stable salt preserved meat products required to safeguard against botulism will result in a product of reduced palatability quite apart from the fact that it will not be cured meat as is now known. Are you justified in withdrawing nitrite from cured meat, disrupting the lives of people making a living from it and denying those who like ham or bacon their enjoyment if it causes no harm to anyone?

Are the controls very stringent?

Professor Beveridge: Our Food and Drug laws are reasonably strict and well enforced. There is no way, however, that the entire population can be defended continuously against an occasional unscrupulous operator. I don't worry about most of the food additives. A few uses of chemicals in foods do bother me somewhat. For example, some time ago it was common for baby food manufacturers to have monosodium glutamate in their baby foods, particularly the beef or broth-type foods. While this was never shown to cause harm, there was the so-called Chinese-restaurant syndrome associated with glutamate intake and some experiments were published suggesting that very high levels of glutamate intake in monkeys could cause brain damage. Feeding monosodium glutamate to babies probably does absolutely

nothing harmful — it is there to make the food taste better to the mother. Since the glutamate provides little or no benefit for the baby and may carry some risk associated with its use, we should not have monosodium glutamate routinely added to baby food, and its use in this type of situation has declined in recent years.

While monosodium glutamate is not a food additive as defined by Canadian Food and Drug laws, the example above allows me to point out an important consideration when evaluating food additives. You must consider the risk/benefit ratio associated with the use of a particular chemical rather than just simply considering the risks or hazards involved as is done in so many popular or newspaper articles.

It is possible that we might be able to get away with fewer additives with improvement in processing techniques, but the controls on them are stringent and as long as we live the type of life we do with our foods being processed in large plants, shipped over long distances and held for long periods of time, then we are going to be faced with the use of some kind of preserving mechanism to keep the food in an edible condition. Furthermore, given our mechanized methods of food manufacture, the value of an additive to a processor, if it makes his process easier or proceed more smoothly, should not be underestimated.

Sometimes, in terms of food additives, I think the public expects an absolute guarantee of safety. That guarantee implies that one must feed a number of (say) rats a chemical and prove that it did nothing harmful to the rats, and you cannot prove it. The public will never get a guarantee of absolute safety for any chemical used in foods.

The Family Farm



Published in the interests of the farmers of the province by the Quebec Department of Agriculture.



FARM INCOME STABILIZATION INSURANCE

\$3,600,000 in Compensation to Farmers.

Some 1,600 producers of feeder calves, feeder cattle and slaughter cattle took advantage of the farm income stabilization insurance scheme which was set up for them in 1976. Adopted under the Farm Insurance Stabilization Insurance Act, this optional and contributory scheme is intended for all Quebec beef producers. Its aim is to guarantee them a minimum annual income.

"La Commission Administrative de l'Assurance-Stabilisation des Revenus Agricoles" (CAASRA) which is in charge of the scheme has paid out \$3,600,000 as compensation to insured farmers.

Already, the insurance fund shows a substantial deficit. Therefore, the Commission would like to inform producers concerned that they will soon be receiving information regarding adjustments to their assessment rates.

Remember that for such schemes there is an insurance fund made up of producers' assessments and a government contribution which is equal to twice this amount.

A New Scheme

The income stabilization insurance schemes are set up for each production sector. At present, CAASRA is preparing to introduce a new scheme, this time for potatoes. The Commission must therefore set the requirements for eligibility, determine the producers' assessments and establish the amount of compensation to be paid to insureds.

All farm producers interested in joining the scheme will soon be receiving necessary information and will be given the opportunity to attend meetings which will be held during the summer in all regions of the province.

In the next few months, the Commission will set up other stabilization schemes; consultations with the other bodies concerned are making good progress.

Two Years in Existence

In addition to guaranteeing an actual income for all producers insured, the Farm Income Stabilization Insurance Act, passed on June 27, 1975, aims essentially at reducing income fluctuations in the agricultural field. This will ultimately result in more stable production volumes, greater productivity and fewer regional disparities.

CHENOPODIUM FICIFOLIUM SMITH SETTLES IN QUEBEC

Just who is this person with such a strange name? Is it a gangster, a dictator or a pop singer? Search no further — it is a weed. Until recently unknown in Quebec and even in Canada, this plant has captured the interest of researchers at the Crop Protection Service of the Quebec Department of Agriculture.

It was first spotted in 1973 at the Crop Protection Research station at St. Augustin in Portneuf County. Since then, several colonies of this weed, all producing seeds in great abundance, have been found each year in the station's fields. This new chenopod bearing fig-type leaves and named *chenopodium ficifolium* Smith was

discovered during an inventory taken in 1974 and 1975 of several corn fields in the St. Hyacinthe region.

Botanists with the Plant Protection Service have carried out the necessary morphological and cytological studies in order to clearly distinguish the new chenopod from *chenopodium album* commonly called lamb's quarters, and the oak-leaved goosefoot, already recognized weeds.

Actual research carried out on the new weed by Dr. Doyon, Dr. C. Gervais and Mr. C. J. Bouchard, agronomists with the Crop Protection Research Service, should be of interest to farmers, agronomists and naturalists who will have to stamp out this weed. The appearance of a weed does not only concern researchers. In addition to being a possible breeding ground for insects and diseases, it represents a likely threat to crops and results in reduced yields.

SCHOOL MILK: FREE MILK DISTRIBUTION PROGRAM TO START IN SEPTEMBER

Plans for a free milk distribution program in the schools as of September, 1977 are making great headway as a result of \$2,000,000 included for this purpose in the Department of Agriculture's credits for the current year.

This was announced by Jean Garon, Quebec Minister of Agriculture, at the same time as the formation of an Advisory Committee presided over by his Department in the hope of involving all those who in one way or another are interested in the school milk program.

The work of this School Milk Committee is to plan the free milk program in various schools, set up the terms and conditions regarding its implementation and ensure its proper application by establishing objective criteria for the selection of participating school boards.

Participating Groups

In order to plan and ensure the fair application of the program, the Department has enlisted several bodies. The following organizations have therefore been asked to send representatives to the School Milk Advisory Committee: La Centrale des enseignants du Québec, Le Conseil de la Coopération Laitière du Québec, the Quebec Dairy Council, Le Conseil Scolaire de L'Île de Montréal, La Fédération des comités de parents de la Province de Québec, the Federation of School Boards of Quebec, La Fédération Québécoise des Producteurs de Lait and the Quebec Education and Social Affairs Departments. Mr. Garon pointed out that in asking these organizations to participate in the program, the government wished to make sure that this endeavour would meet the real needs defined by those working in all the areas involved.

The Minister added that the government intends to give priority to the socio-economic objectives of this program, thereby helping to improve the health of Quebec's young people by making it possible for them to consume at least a minimum quantity of this valuable source of nourishment. The nutritional value of milk, especially for growing children, is already well known. The program will therefore be implemented in a manner that should give the young a taste for milk, but, at the same time, warn them against the dangers entailed in consuming too much of it. In this way, the program is equally in keeping with the concern of the Quebec government for the health sector, as a result of the accompanying efforts for better nutrition.

Recipients

Not all Quebec school children will be able to benefit by the free milk program in its first year of operation. Mr. Garon explained that, unfortunately, because of economic constraints, only a limited number will be able to take advantage of the program.

The School Milk Committee, however, has already established the objective criteria for selection which keeps in mind a fair geographic distribution, the main recipients and, of course, government funding. Consequently, children in nurseries and elementary schools will be receiving free milk as of September, 1977. This applies to rural and urban areas alike in all regions of the province.

During the next few weeks, representatives from the Department of Agriculture, in cooperation with the Department of Education, will visit the members of the school boards which qualify to participate in the first year of the program. These meetings will help to finalize the technical set up.

Supplying School Boards

If necessary, the Department of Agriculture, backed by the School Milk Committee, intends to have school boards obtain their milk from dairies in their particular region or locality. This procedure will enable a greater number of Quebec dairy producers to benefit by the positive results in their sector of free milk distribution in schools.

Excellent Cooperation

In conclusion, the Minister singled out the members of the Department working on the program for their outstanding cooperation. He stressed their social awareness which, without exception, is definite proof of their interest and desire to cooperate with the government in an endeavour whose social, economic and educational impact can only be beneficial for Quebec.

QUEBEC TO ENSURE THE QUALITY OF MEAT

In resending to the National Assembly Bill 43 amending the Agricultural Products and Food Act, Jean Garon, Quebec Minister of Agriculture, stated that the rationalization of the meat sector can be accomplished without impinging on the rights of anyone making a living from this industry, and, at the same time, without compromising the basic principle of consumer protection.

The provisions of the bill are such that, henceforth, Quebec consumers will be assured that meat and meat products sold or served in restaurants, hospitals and colleges will come from healthy animals and fully licensed outlets and therefore, subject to permanent inspection and set standards.

In addition to introducing mandatory licences for all aspects of the meat industry, Bill 43 requires all retailers and wholesalers of meat and meat products, including restaurateurs and supervisors of food services in institutions to obtain their meat supplies from licensed abattoirs or meat packing plants. According to the Minister, this will help to remove from the major distributing centres all uninspected meat not bearing the stamp of quality.

With the sole exception of an operator who at the time of presentation of the bill managed a small abattoir used exclusively to stock its own retail counter, the Bill requires a permit in order to operate in the meat sector. This exception, however, is subject to a strict observance of standards of hygiene and wholesomeness. Moreover, the Minister pointed out that this service is restricted exclusively to persons and families who intend to consume the meat and meat products which they buy at retail counters. Once the first transaction is completed, resale of such uninspected meat will be forbidden by law.

Meat Unfit for Human Consumption

There will be equally strict legislation on the sale of meat unfit for human consumption. Once the bill is passed, under no circumstances will anyone be allowed to recover, transport or process dead animals if he does not hold a specific permit for this type of operation.

The Minister stated that it is not only a matter of prohibiting this type of activity which, in fact, provides an essential service to agriculture and to environmental control, but also of ensuring that meat unfit for human consumption will no longer come in contact with wholesome meat.

Special Permits

The bill introduces special permits, thereby allowing the government to include, in addition to the four major types of permits, namely

for abattoirs, wholesale plants, dismembering plants and firms specializing in recovering meat unfit for human consumption, sub-categories which are clearly related to every aspect of the meat industry. As a result there are now six different permits for slaughtering, depending on the type of animal slaughtered on particular premises. Such specialization will make possible more efficient control of the various operations and further increase public health.

In the case of abattoirs where mandatory "ante and post-mortem" inspections require the presence of an inspector for the entire duration of slaughter operations, the Minister may issue a permit indicating exactly when during the week an abattoir may operate in the event of insufficient slaughter volume for a full-time inspector. Equipment used in the slaughtering, preparation and conservation of

carcasses and which belongs to establishments under inspection, will have seals affixed in the absence of the inspector.

Rationalization of the Meat Sector

Upon adoption of Bill 43, the Department of Agriculture will begin to implement its program for the rationalization of the meat sector. Provided certain conditions are met, the program which at present is under revision, includes assistance policies for enterprises wishing to improve or modernize their installations, in addition to providing compensation to anyone intending to cease operations. In connection with the rationalization program, Mr. Garon emphasized the importance of proceeding step by step, giving everyone sufficient time to adapt to the new regulations. That is precisely what is intended by Bill 43.

(Continued from Page 6)

lead to a reduction in time it takes to produce a saleable product, in developing ways to more efficiently and effectively handle the plant material, and in improving percentage take and quality of cuttings; our expertise in the rooting of difficult nursery species has advanced little since the 1940s.

Current research in the area of propagation will aim to develop and define new propagating practices and to develop methods of propagating difficult-to-root nursery species. Studies will:

(a) evaluate the use of slow release fertilizers as an alternative way of supplying continuous small quantities of nutrients to increase rooting efficiency and survival of cuttings. Increased rooting ability of certain nursery species with surface application of Osmocote 18-9-12 slow release fertilizer to the rooting medium has been observed in our preliminary trials.

(b) Evaluate the use of growth inhibiting chemicals, such as Ethrel, which are now recognized

to play an important role in the rooting response of cuttings. Preliminary trials indicated that Ethrel used in conjunction with IBA (indole butyric acid) stimulated rooting capacity of certain species.

(c) The problem of rooting difficult species is at present being approached by the simultaneous grafting and rooting technique. In recent trials, good to excellent simultaneous grafting and rooting success was achieved in certain sets of unrooted, hard-to-root juniper cuttings side-grafted onto unrooted, easy-to-root juniper cuttings. A contingent approach using tissue culture methods may also be considered, as this also offers good chances of success and may in the future be considered more seriously by nurserymen as a practical alternative method of vegetative propagation for certain species.

Nursery Stock Storage in Plastic Bags

A method for handling and storing of bare-root nursery stocks in plastic bags under refrigeration

was successfully used during two winters using over 1,200 rose plants, including 45 cultivars, and other various deciduous and evergreen species. Studies indicated differences in storageability of some deciduous and evergreen stocks in plastic bags when kept refrigerated at 0° or 5°C. The water and carbohydrate status in twigs of selected species were also monitored during refrigerated storage.

Summary

Ornamental horticulture includes all aspects of the production, marketing, and utilization of floricultural, nursery, and turf crops; it is of aesthetic, economical, physical, and ecological importance to society. The phenomenal growth of the ornamental horticultural industry in recent years and its gross farm value of over \$150 millions illustrate strong demand by Canadians for nursery and other ornamental plants. The nursery research program at Ottawa, similar to other research programs in ornamentals at Agriculture Canada, is investigating problems identified by growers.

Kenya

Kenya is of interest to our members just now because of the ACWW conference being held in Nairobi in October. Being a delegate and because I was born in East Africa and lived there for many years, I have been asked, What is it like?— What will be discussed at the conference? Who will be there? What do you expect to accomplish? Perhaps through the Journal I can share some of the answers with you.

Kenya is in the middle part of Africa, on the East coast. It straddles the equator and is bordered by Uganda on the west, Ethiopia to the north, Tanzania to the south. Somaliland and the Indian Ocean are on its eastern border. It is some 225,000 square miles in size.

About two thirds of the country is arid or semi-arid so that arable land is limited.

The coastal region is hot and humid most of the year — hottest time being November-February. The sea breezes help to keep the temperature bearable. As you travel inland, the land rises and becomes less humid. The coastal area gives way to the Nyika or dry bushland. The tsetse fly lives in this area. Further inland are the grasslands and then the more mountainous areas with several high peaks such as Kilimanjaro, which is over 19,000 feet above sea level, Kenya, about 17,000 feet, and Mount Elgon, near the Uganda border over 14,000 feet.

The Rift Valley is a long volcanic ditch which cuts through Kenya in a more or less north and south direction. The floor of the valley

varies from 2,000 to 3,000 feet below the surface of the surrounding country and can be as much as 50 miles wide in some places. It has salty lakes which give East Africa all the soda it needs and provides a home for vast flocks of flamingoes. Some parts of the valley are quite fertile, some have extinct volcanos (and there are some active ones), and some areas are hot and dry. Lake Victoria is a large inland, fresh water lake in the central area. It is hot and humid mainly round the lake area.

Mt. Kilimanjaro is in Tanzania— on the border of the two countries—but being over 19,000 feet above sea level, it is seen over a large area of Kenya. There are several game parks in various areas of the country. Nairobi, at nearly 6,000 feet above sea level, has a very pleasant climate with warm days and cool nights— between 40 and 50 degrees F. The city has a population of over 500,000 people of many races. The main languages spoken are Swahili, English, and various tribal ones. The city is a modern one with fine tree-lined avenues, good hotels, fine shops, etc. There are churches of various denominations, elementary and high schools, hospitals, sports facilities, and, of course, safari outfits. Close to the city is one of the National game parks with an orphanage for young and orphaned animals. Because of the altitude, many people find they are easily tired for the first few days, but they soon adjust.

Kenya is mainly an agricultural country with most growing done in the highlands. Tea, coffee, sisal, pyrethrum (a daisy-like plant that is an insecticide), cotton are grown as well as the

usual vegetables. Corn, sorghum, and millet are the main grains grown. Livestock is mainly cattle, both beef and dairy, with sheep and goats a favourite second.

Tourists are a big source of revenue and there are many safari outfits that will plan tours, etc. for visitors. Many of the delegates to the ACWW Conference will be going on safari tours, some before the conference and some after. Some plan to go to Zambia to the south and they will see Victoria Falls as well as go on safari. Some will also do a tour of Egypt in the north. It is a wonderful opportunity to see as much as possible when they are in the area.

The ACWW Conference will be held in the Kenyatta Conference Hall in Nairobi. It is a large, modern conference building and close to the city hotels.

About 5,000 delegates are expected from all round the world. Most of the Canadian delegates will be staying in the New Stanley Hotel which is quite close to the conference centre.

ACWW supports education/ nutrition programs in several parts of the world—India, Brazil, Indonesia, Africa, and in Central America. Reports will be given by representatives from these areas and suggestions for further education in these areas and in others. This will certainly be one topic discussed. Other topics will concern family life, opportunities for women, world resources, and exchange of news and views. There are some changes proposed in the ACWW structure, and we shall have to vote on these. Voting will also be for new officers. Mrs. Marion Fulton,

Clarendon WI in Pontiac Co. recently celebrated a most enjoyable 60th Anniversary.

our present Area Vice-President, has been proposed as a Deputy Vice-President for ACWW. Mrs. J. McLean has been proposed as Area Vice-President for Canada.

It is 25 years since we left East Africa, so there will be many changes. Women now have the vote; they can hold public office. It will be interesting to see these changes and to learn how the people of Kenya have adopted and managed and what their hopes are for the future.

Mrs. James G. Robertson
Hemmingford WI.

Rawdon Roundup

We have four new members this year, which makes for an average attendance of 14 members at our **Rawdon** WI, Montcalm County, meetings. We have an annual card party in May and a tea and home bake sale in August. We held a Christmas dinner for "Live Along Ladies" at the Rawdon Golf Club. A small gift was given to each guest. The name tags from their gifts were placed in a box and the first six names drawn received the table decorations made by a member, Mrs. Rosens-traten. Transportation was provided by members. A gift, fruit, and candy was given to each patient visited at the St. Charles Hospital in Joliet the week before Christmas. A local home for seniors was also visited and gifts, candy, and fruit distributed.

We receive a letter every month from our family in India, and when we feel there is a need we send an extra gift of money. It might be for a daughter's wedding or a death in the family.

Christmas comes early for us—the parcel containing toys and books is packed and shipped to Grise Fiord in July. Wool and items for handicrafts are sent to Eskimo Point.



The Rawdon United Church, where we hold our meetings, is building a new hall which, we feel, will enable us to have more social gatherings during the coming year. We are going to try something new this fall. Two members will be chosen each month to plan the non-business part of the next month's meeting. They will be the hostesses and plan the entertainment.

Each member was to bring one guest to the June meeting which, we hope, will increase our membership.

Mrs. C. Colthorpe
Secretary, Rawdon WI.

60th Anniversary

The **Clarendon** WI (Pontiac County) marked their 60th Anniversary with a turkey dinner at "Bob Smith's Restaurant". The head table was attractively decorated and the centre piece was a lovely birthday cake complete with 60 candles and made by Mrs. Sidney Draper. The cake was appropriately decorated by Mrs. Irwin Hayes. Well done ladies! The President, Mrs. Clarence Knox, opened the dinner with the members joining in the grace, Ode, Collect, and "The Queen." Mrs. Walter Kilgour read the minutes of the first two meetings held in 1917. Mrs. Lloyd Connolly gave a very complete history of the Clarendon WI. We were honoured to have Mrs. Rabb, our County President, with us. She presented 25-year pins to Mrs. Irwin Woods, Mrs. Robinson Hodgins, and Mrs. Sidney Draper.

Mrs. Thos. Stephens, our oldest member blew out the candles

and each member received a generous portion of cake. Mrs. Hayes proposed a toast to "The Queen". After singing "O Canada" everyone went home feeling the anniversary was a huge success.

Gladys Barr
Publicity Convener

Coffee Party and Sale

There are only 12 members in our **Granby Hill** branch in Shefford County. However a successful "coffee party" was held on June 8 from 10 a.m. to 2 p.m. at the home of Mrs. Albert Coupland, one of our members. Tickets were sold for \$1, and many ladies enjoyed a profitable and pleasant "get-together". To go along with the coffee and tea, there were open-faced brown and white rolls with fillings of egg, cream cheese and cherry, chicken, and cream sugar. Also on the menu was a choice of oatmeal or bran muffins and doughnuts. A very important part of this coffee party was a sales table held in the carport. Here the items were varied and interesting. There was home cooking, rhubarb and strawberry sauce, strawberry freezer jam, cream sugar. There was a variety of plants, macramé hangers, spring flowers, knitted and crocheted slippers, cushions, aprons, jewelry, odd dishes, cups and saucers, covered coat hangers and many other articles.

This was a new endeavour for our branch and proved to be a very satisfactory project. It was a decided financial success and the remarkable display at both the refreshment counter and the sales table proved that one



The cake was cut at Missisquoi County 65th Anniversary by Mrs. Ruby Sherrer, President Dunham WI., and Mrs. Reda Lewis, President Missisquoi County. Below: head table guests, left to right: Mrs. L. Bidner, Mrs. A. Farnham, Mrs. H. David, Mrs. S. Parker, Mrs. R. Lewis, Mrs. E. Turner, Mrs. E. Brown, and Mrs. I. Williams.

Country Club to celebrate. Guests were greeted by the County President, Mrs. Reda Lewis and the 2nd Vice-President Mrs. Ruby Sherrer and Publicity Convener Mrs. Norma Sherrer. Anniversary ribbons were pinned on each guest and there were corsages for Past Presidents and invited guests. Invited guests were Mrs. Sterling Parker, Provincial 1st Vice-President, Mrs. Eldora Turner, Vice President of Sherbrooke County, five Past-Presidents of Missisquoi County: Mrs. Ella Brown, Mrs. Alice Farnam, Mrs. Helen David, Mrs. Lelo Bidner, and Mrs. Irene Williams. Mrs. Reda Lewis,

glimpses of the past, when so many worth-while things have been accomplished.

"The fundamental aims of our organization are sound and good and need no change, but it is our approach to them that we must change. It is not enough to be a member, we must be a good member, remembering that we should try to live our creed. It is difficult indeed to be calm, serene, and gentle in these hectic days and to avoid little things which create differences, but only by having done this, our county is celebrating this Anniversary. I do hope you will all have a pleasant evening and continue to work so we may in another decade join together for Home and Country as members of Missisquoi County Women's Institute."

A most delightful and varied program of readings, piano solos, singing, histories of WI, etc., was put on by the four branches.

Life Memberships

At a dinner, commemorating the 65th Anniversary of Missisquoi County Women's Institutes, held at the Country Club, Cowansville, on June 29, **Cowansville** branch awarded Life Memberships to two of its members, Mrs. Ella Brown and Mrs. Bernice Jenne.

Mrs. Rita Phelps, Home Economics Convener, presented Mrs. Jenne with her Life Membership Certificate and Pin and Mrs. Mary McCutcheon, Convener for Education, presented Mrs. Brown with her Certificate and Pin. Both Mrs. Phelps and Mrs. McCutcheon, in well chosen words, paid tribute to both the recipients for their outstanding contribution to the work of the WI in Missisquoi County. Mrs. Brown and Mrs. Jenne expressed their gratitude to the members of the Cowansville WI for having honoured them in this way, and stated that they would wear their Pins with great pride.

Dear WI Members:

The month in which I am writing started off with celebrations in honour of Dominion Day and the trend has continued throughout. There have been visits to public parks and beaches, family



branch, even though few in number, can accomplish much.

Mrs. Margaret Neil,
Publicity, Granby Hill WI.

County's 65th Anniversary

June 29, 1977, marked a milestone in the history of **Missisquoi County** Women's Institute. It was on this day June 29, 1912, that Missisquoi County WI was born, the first County WI in the Province. Sixty-five years later members of the four branches (Cowansville, Dunham, Fordyce, and Stanbridge East) of Missisquoi County gathered at the beautiful Cowansville Golf and

County President and Mrs. Ruby Sherrer, President of Dunham branch, the first QWI branch in the Province, officiated at the cake cutting.

The President paid a very fitting tribute to Mrs. George Beach, the founder of QWI, then gave the following address of welcome: "It is indeed a pleasure for me to welcome you here tonight and share in this 65th Anniversary of Missisquoi County WI. We are pleased Mrs. Parker was able to join us and also Mrs. Turner was able to travel along with Mrs. Parker and be with us. No doubt many have been reminiscing this past while, no occasion is better than an anniversary to take

reunions, parties, and picnics. Inverness branch reported that an article had been read at a recent meeting entitled, "Flag Makers Can't Keep Up with the Demand." Essentially we seem to be a patriotic people. However, it hasn't been all picnics and parties — farmers especially have been very busy. July can almost claim to be the peak of the working year for them. A lot of feed for animals has been stored, and that has been done in spite of times of almost record-breaking heat and humidity, and sometimes in the approach of a sudden thunderstorm. These unexpected summer outbursts remind me of a whimsical child, one minute cloudy and tearful, the next all smiles and blue skies.

Missisquoi County planned a picnic to be held in Frelighsburg with a tour of Camp Garagona in the afternoon. **Dalesville-Louise** entertained the Grenville WI ladies at an afternoon outing at Mrs. Morrison's cottage on Lake Louisa on a beautiful hot day amid delightful scenery. The Argenteuil reporter said, "the guests partook of a repast that would have delighted a king. Words fail me to describe the taste of the strawberries." I recall reading lines that went something like the following: Doubtless God could have made a better berry than the strawberry, but doubtless God never did. This same branch planned a trip to Rawdon in August. Seventeen members of **Frontier** met at the Carillon Park along with seven guests. Since the roll call was to bring a child along, they had a total of 19 children present. A picnic lunch was enjoyed, and both children and grown-ups participated in games. This branch is also planning a trip for the latter part of August: a sight-seeing excursion to the Thousand Islands. **Howick** branch spent a very enjoyable and beneficial afternoon at Little Denmark, a florist shop on the outskirts of Hemmingford. The meeting at **Denison's Mills** took the form of a picnic with the members and their families attending. **Richmond Hill** is hoping to have a bingo in August at which there will be a drawing on a shawl made by a deceased member and given to

the branch by this lady's daughter. A picnic at Lepander Falls is planned for the August meeting of the **Inverness** branch. **Fordyce** ladies made plans to tour the Balfour Jewellery Company plant in Sherbrooke in early August. Thirty members of the **Brownsburg** WI made a trip to Lakefield where they were royally entertained by the ladies of the Lakefield branch. **Huntingdon** WI, with guests, took to the road for their July meeting and visited the home of Mrs. Aaron Churchill in Hemmingford and moved from there to the Little Denmark Flower Nursery.

It hasn't been all picnics and trips for considerable work has been accomplished. At the June meeting of the **Lachute** branch, Mrs. McGibbon brought the members up to date on provincial matters. The Jessie MacCallum Legacy or Fund was discussed and an unanimous motion was passed, that if and when the Lachute Residence directors install a fire prevention sprinkler system, that \$10,000 from this legacy be offered toward the project. The July meeting of this same branch took place at the home of Mrs. Laura Davis. Some very interesting slides were shown by Miss Gertrude Hudson of her tour of the Scottish Hebrides. Both branches in Megantic County, **Kinnear's Mills** and **Inverness**, have agreed to enter a float in the parade at Leeds Village when the 75th Anniversary is celebrated.

At the July meeting of the **Richmond Young Women** a quiz was held on edible plants and spices. This question was raised, "wouldn't it be a good idea to share these quizzes," but as the convener said. "If they appeared in the Journal everyone would know the answer". One member has a new baby girl so all were happy to hear of her safe arrival. The following is newsworthy also: Mrs. Marion Jamieson has had perfect attendance for the past 10 years, and Mrs. Ora Knowles

for nine years, and nine members had perfect attendance during the past year. These ladies all received a cup and saucer.

Barachois branch members were saddened by the death in June of their President for the past 3½ years, Mrs. James Ste. Croix.

Cowansville reports an interesting July meeting. Citizenship Convener, Mrs. Bidner, introduced the guest speaker Mrs. Comfort of St. Helen's School, who spoke of the day to day life there. This school is now Youth with a Mission, an international movement of youth from any denomination, united in love, and dedicated to present Christ personally to this generation. This movement was started in England by Loren Cunningham, the son of a clergyman. Miss Vivian Recas, formerly of England, was introduced and spoke of her experience and work with the group. She concluded her remarks with these words "I am proud to be a Canadian." At **Aubrey-Riverfield** the guest speaker was Florian Tardiff who told about the new residence in Ormstown, Centre d'Accueil. He explained in detail the type of building, the four different categories of people to be admitted, the plan of the rooms, the personnel, the four main departments, and the cost. At **Hemmingford** the ladies decided to purchase some lawn chairs for the new Hemmingford Apartment Building. These will be placed on the balconies for the use of the senior citizens this summer. Gardening was on the minds of nine members and one guest at the July meeting of the **Franklin** WI, as each answered the roll call with the name of a vegetable starting with her own initial. This branch is preparing for the booth which they sponsor at Have-lock Fair.

I'll finish this report for September with this quote: Joseph Addison, English writer, said, "The grand essentials in this life are something to do, something to love, and something to hope for".

Gladys C. Nugent
QWI Publicity Convener.

REMEMBER REUNION '77

Come along and see
Macdonald On the Move



DATE: Saturday, October 15, 1977

TIME: Activities (optional) all day

PLACE: Macdonald Campus

The full day of activities include:

- **Hospitality Room:**
register, refresh and relax at the Centennial Centre.
10:00 a.m. to 3:00 p.m.
- **Fall Royal:**
see the student projects prepared for the Macdonald College Open House.
- **Tour the Macdonald Stewart Building:**
visit the site of the near completed Agriculture Building and tour the area which takes on a new and vital look.
- **Graduates' Cocktail Party:**
come and meet old friends in the Centennial Centre.
Join us for cocktails.
- **Annual Meeting of the Macdonald Branch:**
a pleasant mixing of business and pleasure will provide a brief report on the Branch Activities.
Meet the new Dean of the Faculty, Dr. Lewis Lloyd.
- **Annual Banquet and Dinner Dance:**
a delicious hot and cold buffet with wine, followed by music for your listening and dancing pleasure.
- **Class Parties:**
To date, 8 classes are planning to get together at Reunion '77. This information is provided in separate class mailings.

Registration information and Brochures will be sent to all Macdonald Graduates and Staff.

FOR INFORMATION:

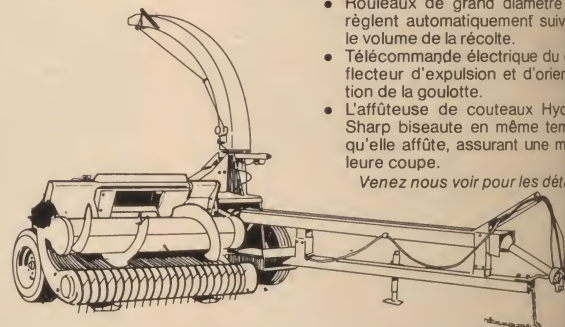
Write to: MACDONALD BRANCH OF THE GRADUATES' SOCIETY
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geable à attaches rapides pour les récoltes en lignes ou le ramassage du foin. Le cueilleur 2 rangs se règle suivant la distance entre les rangs et s'adapte à la 720 ou à la 830; le cueilleur 3 rangs n'est disponible que pour la 830 seulement. Le ramasseur de 6 pi s'adapte aux deux. Le mécanisme de coupe, muni de 12 couteaux rapides, coupe en longueurs de 3/16 po sans nécessité de recouper. Commandes électriques à portée de la main pour l'alimentation et l'expulsion.

Récolteuses-
hacheuses
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